

PHUS010400US  
09/812,431

Amendment A

**Listing of Claims**

1. (Currently Amended) A method for measuring a desired condition, comprising:  
directing a spread spectrum signal into a medium;  
detecting a parameter that corresponds to the signal directed into the medium;  
generating a measured parameter signal from the detected parameter; ~~and~~  
analyzing the measured parameter signal to determine the desired condition; ~~and~~  
generating a clock signal that is used to spread the signal directed into the medium  
across a desired frequency by randomizing the clock signal with a random number  
generator and a divider.
2. (Original) The method of claim 1, wherein the steps of directing a spread spectrum signal into a medium comprises transmitting a spread spectrum current signal into the medium.
3. (Original) The method of claim 2, wherein the steps of detecting a parameter that corresponds to the signal directed into the medium comprises measuring a voltage signal.
4. (Original) The method of claim 1, wherein the steps of directing a spread spectrum signal into a medium comprises transmitting a spread spectrum voltage signal into the medium.
5. (Original) The method of claim 4, wherein the steps of detecting a parameter that corresponds to the signal directed into the medium comprises measuring a current signal.
6. (Original) The method of claim 1, wherein the steps of generating a measured parameter signal from the detected parameter comprises generating an impedance signal.
7. (Original) The method of claim 6, wherein the steps of analyzing the measured parameter signal to determine the desired condition comprises analyzing the impedance signal to determine a contact impedance of a device electrode.

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8. (Original) The method of claim 6, wherein the steps of analyzing the measured parameter signal to determine the desired condition comprises analyzing the impedance signal to determine a heart rate of a patient.
9. (Original) The method of claim 6, wherein the steps of analyzing the measured parameter signal to determine the desired condition comprises analyzing the impedance signal to determine a respiration rate of a patient.
10. (Original) The method of claim 1, wherein the steps of directing a spread spectrum signal into a medium comprises transmitting a spread spectrum ultrasound signal into the medium.
11. (Original) The method of claim 10, wherein the steps of analyzing the measured parameter signal to determine the desired condition comprises analyzing echoes of the ultrasound signal to determine the heart rate of a patient.
12. (Original) The method of claim 1, wherein the steps of directing a spread spectrum signal into a medium comprises transmitting a spread spectrum light signal into the medium.
13. (Original) The method of claim 12, wherein the steps of analyzing the measured parameter signal to determine the desired condition comprises analyzing detected red and/or infrared light level to determine the oxygenation level of a patient's blood.
14. (Presently Cancelled) The method of claim 1, further comprising generating a clock signal that is used to spread the signal directed into the medium across a desired frequency.
15. (Presently Cancelled) The method of claim 14, further comprising randomizing the clock signal.

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16. (Presently Cancelled) The method of claim 15, wherein the clock signal is randomized with a random number generator and a divider.

17. (Currently Amended) A spread spectrum measurement device, comprising:

means for directing a spread spectrum signal into a medium;

means for detecting a parameter that corresponds to the signal directed into the medium;

means for generating a measured parameter signal from the detected parameter;

and

means for analyzing the measured parameter signal to determine a desired

condition; and

means for generating a clock signal that is used to spread the signal directed into the medium across a desired frequency by randomizing the clock signal with a random number generator and a divider.

18. (Currently Amended) A spread spectrum measurement device at least partially comprised within a computer readable medium, comprising:

logic configured to direct a spread spectrum signal into a medium;

logic configured to detect a parameter that corresponds to the signal directed into the medium;

logic configured to generate a measured parameter signal from the detected parameter; and

logic configured to analyze the measured parameter signal to determine a desired condition; and

logic configured to generate a clock signal that is used to spread the signal directed into the medium across a desired frequency by randomizing the clock signal with a random number generator and a divider.

19. (Currently Amended) A spread spectrum measurement device, comprising:

a medium interface;

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a signal transmitter configured to produce a spread spectrum input signal, the signal transmitter being in electrical communication with the medium interface;

a signal detector configured to detect a spread spectrum signal at the medium interface, the signal detector being in electrical communication with the medium interface; and

a signal processor configured to analyze the spread spectrum signal detected by the signal detector; and

a random signal generator configured to generate a clock signal that is used to spread the signal directed into the medium across a desired frequency by randomizing the clock signal with a random number generator and a divider.

20. (Original) The device of claim 19, wherein the signal transmitter transmits a spread spectrum electrical signal.

21. (Original) The device of claim 19, wherein the signal transmitter transmits a spread spectrum ultrasound signal.

22. (Original) The device of claim 19, wherein the signal transmitter transmits a spread spectrum light signal.

23. (Presently Cancelled) The device of claim 19, further comprising a random signal generator in electrical communication with the signal transmitter and the signal detector.